

**GENES IDENTIFIED AS REQUIRED FOR PROLIFERATION OF E.  
COLI**

Abstract of the Disclosure

5 The sequences of nucleic acids encoding proteins required for *E. coli* proliferation  
are disclosed. The nucleic acids can also be used to screen for homologous genes that are  
required for proliferation in microorganisms other than *E. coli*. The nucleic acids can also  
be used to design expression vectors and secretion vectors. The nucleic acids can be used  
to express proteins or portions thereof, to obtain antibodies capable of specifically binding  
to the expressed proteins, and to use those expressed proteins as a screen to isolate  
10 candidate molecules for rational drug discovery programs. The nucleic acids of the  
present invention can also be used in various assay systems to screen for antimicrobial  
agents.

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